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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,237	12/30/2003	Jeong-Hoon Kim	11038-133-999	8368

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EXAMINER
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NGUYEN, XUAN LAN T

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/749,237

Applicant(s)

KIM, JEONG-HOON

Examiner

Lan Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/30/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "44" in page 4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-6 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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- Claim 1, line 11, the phrase "so mounted as" is indefinite. Does Applicant mean "mounted within the two cushion block parts to vary the stiffness of the two block parts"?
- Claim 1, line 13, "a vehicle" should be --the vehicle--.
- Claim 4 repeats a portion of claim 1.
- Claim 5, line 2, "a vehicle" should be --the vehicle--.
- Claim 15, line 2, "said engine mount is a transmission mount" is confusing.

Perhaps the claimed "an engine mount" in claim 11 should be --a mount--; so that in the dependent claims, "said mount" could be one of an engine mount and a transmission mount.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurita et al.

Re: claims 1 and 4, Kurita et al. show a vehicle mount apparatus in figure 1 having an asymmetrical variable stiffness, as in the present invention, the apparatus comprising: a cushion member having two cushion block parts 36a, 36b, see figure 3, each symmetrically arranged about a vertical line, axis Z, and positioned in the fore and

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aft direction relative to a vehicle body 30; vehicle body brackets 38, 1a each secured at the vehicle body and contacting inclines of the two cushion block parts, as shown in figure 2; assembly body brackets 1b, as shown in figure 1, each contacting the inclines of the two cushion block parts and mounted thereon with an assembly body; variable stiffness means, U shaped coils 36c in figure 1, mounted to vary the stiffness of the two cushion block parts; sensing means 40 for detecting the changes of accelerated velocity of a vehicle; and a controller 100 in figure 4 for receiving a signal from the sensing means to control the variable stiffness means, as shown in figures 4-9. Note that figure 6, especially, shows the situation where the bed 1b would be pitching causing the controller 100 to vary the stiffness in block 36a (fore) and block 36b (aft) asymmetrically in order to damp the pitching vibration due to accelerations detected by sensors 40 on 36a and 36b.

6. Claims 7, 8, 10, 11, 13 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Tabata.

Re: claim 7, Tabata shows a vehicle mount apparatus having an asymmetrical variable stiffness, as in the present invention, comprising: a sensor S7 for detecting a change in velocity of a vehicle component; a controller 122 configured to receive output from said sensor; and a variable stiffness apparatus 100 configured and dimensioned to receive output from said controller and adjust a stiffness of said variable stiffness apparatus accordingly, column 4, lines 23-45. Note that the preamble "having an asymmetrical variable stiffness" could be treated broadly wherein Tabata shows rubber 104 on top and ER fluid 105 for the bottom of mount 100.

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Re: claim 8, Tabata further shows engine 10.

Re: claim 10, Tabata shows electrode plate 106 and electro-rheological fluid 105.

Re: claim 11, Tabata shows a vehicle mount apparatus having an asymmetrical variable stiffness, as in the present invention, comprising: an engine mount 100 including a fluid 105 wherein a stiffness of said fluid can be adjusted, column 4, lines 23-45. Note that the preamble "having an asymmetrical variable stiffness" could be treated broadly wherein Tabata shows rubber 104 on top and ER fluid 105 for the bottom of mount 100.

Re: claim 13, Tabata further shows electrode plate 106 and electro-rheological fluid 105.

Re: claim 14, Tabata further shows sensor S7, and controller 122, as claimed.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2, 3, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurita et al. in view of Tabata.

Re: claim 2, Kurita's apparatus, as rejected in claim 1, further shows amplifier 52i, but lacks the ER fluid and electrode plate in each cushion block part. Tabata teaches an adjustable engine mount 100 wherein said mount comprises ER fluid 105

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and electrode plate 106 to vary the stiffness of ER fluid 105 as an excellent damper for a wide range of vibration amplitudes. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Kurita's apparatus with a cushion block such as taught by Tabata wherein said block comprises ER fluid and electrode plate; since Tabata's cushion block is well-known for its excellent damping capability in a wide range of vibration amplitudes.

Re: claim 3, the Examiner takes an Official Notice that engine mount using MR fluid with electromagnets and ER fluid with electrode plates are art equivalents and would have been obvious for one of ordinary skill in the art at the time of the invention to have selected either one of the two for their well known use in the art of dampening.

Re: claims 5 and 6, Kurita's apparatus, as rejected in claim 1, lacks the sensing means to be a speed sensor and an engine revolution sensor. Tabata teaches a variety of sensors S6, S7 in order to detect different vibration frequencies to better damp the vibration. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Kurita's apparatus to have included a speed sensor and an engine revolution sensor as taught by Tabata in order to detect different vibration frequencies to better damp the vibration which in turn would provide a much smoother ride.

9. Claims 9, 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tabata.

Re: claim 9, the apparatus of Tabata, as rejected in claim 7, lacks the MR fluid and the electromagnet. The Examiner takes an Official Notice that engine mounts using

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MR fluid with electromagnets and ER fluid with electrode plates are art equivalents and would have been obvious for one of ordinary skill in the art at the time of the invention to have selected either one of the two for their well known use in the art of dampening.

Re: claim 12, the apparatus of Tabata, as rejected in claim 11, lacks the MR fluid and the electromagnet. The Examiner takes an Official Notice that engine mounts using MR fluid with electromagnets and ER fluid with electrode plates are art equivalents and would have been obvious for one of ordinary skill in the art at the time of the invention to have selected either one of the two for their well known use in the art of dampening.

Re: claim 15, the apparatus Tabata, as rejected in claim 11, lacks the intended use for the apparatus to be used with a transmission block instead of an engine block. The Examiner takes an Official Notice that the use of vibration damping apparatus for either an engine block or a transmission block is old and well known in the art of vibration damping and would have been obvious for one of ordinary skill in the art at the time of the invention to have used the apparatus of Tabata to dampen vibration in a transmission block to further provide a smooth ride.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Reichard et al. show an adjustable engine mount apparatus. Preece shows another engine mount apparatus.




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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lan Nguyen whose telephone number is 703-308-8347. The examiner can normally be reached on M-F, 8 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lan Nguyen  
Patent Examiner  
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2/19/05